

## CLAIMS

### 1. Use:

– of a protein characterized in that it comprises or is constituted by:

- \* the NOV protein, represented by the sequence SEQ ID NO: 2, or
- \* a fragment of this protein, providing that this fragment exhibits an angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or
- \* any sequence derived from the sequence SEQ ID NO: 2 or from a fragment defined above, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or
- \* any sequence homologous to the sequence SEQ ID NO: 2 or to a fragment defined above, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity,

– of a nucleotide sequence characterized in that it comprises or is constituted by a nucleotide sequence coding:

- \* either for the NOV protein as defined above,
- \* or for a fragment of the NOV protein as defined above,
- \* or for a sequence derived from the NOV protein as defined above,
- \* or for a sequence homologous to the NOV protein as defined above,

said nucleotide sequence corresponding in particular to the nucleotide sequence SEQ ID NO: 1 coding for SEQ ID NO: 2, or to the sequence SEQ ID NO: 3 coding for SEQ ID NO: 4, or to the sequence SEQ ID NO: 5 coding for SEQ ID NO: 6, or to the sequence SEQ ID NO: 7 coding for SEQ ID NO: 8, or to the sequence SEQ ID NO: 9 coding for SEQ ID NO: 10, or to the sequence SEQ ID NO: 11 coding for SEQ ID NO: 12,

– of an anti-idiotypic antibody of the NOV protein,

for the preparation of a medicament intended for the treatment:

– of pathologies requiring the inhibition of endothelial proliferation, in particular within the framework of the following pathologies: age-related macular degeneration, diabetic retinopathy, rheumatoid arthritis, angiomas, angiosarcomas, in particular  
5 Castelman's disease and Kaposi's sarcoma, or

– of pathologies requiring the inhibition of endothelial activation, in particular within the framework of the following pathologies: allograft and xenograft rejection, acrocyanosis, scleroderma, or within the framework of the preparation of grafts between collection and transplantation.

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2. Use according to claim 1, of a protein characterized in that it comprises or is constituted by:

\* the NOV protein, represented by the sequence SEQ ID NO: 2, or

\* a fragment of this protein, providing that this fragment exhibits an  
15 angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or

\* any sequence derived from the sequence SEQ ID NO: 2 or from a  
20 fragment defined above, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or

\* any sequence homologous to the sequence SEQ ID NO: 2 or to a  
25 fragment defined above, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity,

for the preparation of a medicament intended for the treatment:

30 – of pathologies requiring the inhibition of endothelial proliferation, in particular within the framework of the following pathologies: age-related macular degeneration, diabetic retinopathy, rheumatoid arthritis, angiomas, angiosarcomas, in particular Castelman's disease and Kaposi's sarcoma, or

– of pathologies requiring the inhibition of endothelial activation, in particular within the framework of the following pathologies: allograft and xenograft rejection, acrocyanosis, scleroderma, or within the framework of the preparation of grafts between collection and transplantation.

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3. Use according to claim 2, of a protein characterized in that it comprises or is constituted by the NOV protein, represented by the sequence SEQ ID NO: 2.

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4. Use according to claim 2, of a protein characterized in that it comprises or is constituted by:

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\* a fragment of the NOV protein, represented by the sequence SEQ ID NO: 2, providing that this fragment exhibits an angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or

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\* any sequence derived from the sequence SEQ ID NO: 2 or from a fragment defined above, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or

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\* any sequence homologous to the sequence SEQ ID NO: 2 or to a fragment defined above, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity.

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5. Use of a protein characterized in that it comprises or is constituted by:

\* a fragment of the NOV protein, represented by the sequence SEQ ID NO: 2, providing that this fragment exhibits an angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by

one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or

\* any sequence derived from the sequence SEQ ID NO: 2 or from a fragment defined above, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or

\* any sequence homologous to the sequence SEQ ID NO: 2 or to a fragment defined above, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity,

for the preparation of a medicament intended for the treatment of cancer.

**6.** Pharmaceutical composition characterized in that it contains as active ingredient:

— a protein characterized in that it comprises or is constituted by:

\* a fragment of the NOV protein, represented by the sequence SEQ ID NO: 2, providing that this fragment exhibits an angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or

\* any sequence derived from the sequence SEQ ID NO: 2 or from a fragment defined below, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or

\* any sequence homologous to the sequence SEQ ID NO: 2 or to a fragment defined below, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity,

– a nucleotide sequence characterized in that it comprises or is constituted by a nucleotide sequence coding:

- \* either for the NOV protein as defined above,
- \* or for a fragment of the NOV protein as defined above,
- \* or for a sequence derived from the NOV protein as defined above,
- \* or for a sequence homologous to the NOV protein as defined above,

said nucleotide sequence corresponding in particular to the nucleotide sequence SEQ ID NO: 1 coding for SEQ ID NO: 2, or to the sequence SEQ ID NO: 3 coding for SEQ ID NO: 4, or to the sequence SEQ ID NO: 5 coding for SEQ ID NO: 6, or to the sequence SEQ ID NO: 7 coding for SEQ ID NO: 8, or to the sequence SEQ ID NO: 9 coding for SEQ ID NO: 10, or to the sequence SEQ ID NO: 11 coding for SEQ ID NO: 12,

– an anti-idiotypic antibody of the NOV protein,  
in combination with a pharmaceutically acceptable vector.

7. Pharmaceutical composition according to claim 6, characterized in that it contains as active ingredient a protein characterized in that it comprises or is constituted by:

\* a fragment of the NOV protein, represented by the sequence SEQ ID NO: 2, providing that this fragment exhibits an angiogenesis-inhibiting activity, said fragment comprising in particular approximately 40 to approximately 180 amino acids, and being in particular represented by one of the following sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10 or SEQ ID NO: 12, or

\* any sequence derived from the sequence SEQ ID NO: 2 or from a fragment defined above, in particular by substitution, deletion or addition of one or more amino acids, providing that this derived sequence exhibits an angiogenesis-inhibiting activity, or

\* any sequence homologous to the sequence SEQ ID NO: 2 or to a fragment defined above, preferably having a homology of at least approximately 80%, and in particular 85%, with the region comprised between the amino acids in positions (33) and (338) of the sequence SEQ ID

NO: 2, providing that this homologous sequence exhibits an angiogenesis-inhibiting activity,  
in combination with a pharmaceutically acceptable vector.

5           **8.**   Composition according to one of claims 6 or 7, characterized in that it contains as active ingredient the sequence SEQ ID NO: 8.

**9.**   Use according to claims 1 to 5, for the preparation of a composition according to one of claims 6 to 8, intended to be administered at a rate of approximately  
10   0.1 to approximately 20 mg/kg/day.